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(56) Documents cited
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UK CL (Edition J) G5C CBF CBJ CCE CCF CCG CCH CEL CJA
INT CL[4] A47F, G09 F

(54) A rotateable sign

(57) A rotateable sign (2) comprising a box-like body member (4) having a peripheral surface (6), receiver means (8) which is mounted on the peripheral surface (6) and which is for receiving display members (10) containing information to be displayed, and a motor (12) for rotating the body member (4) such that the display members (10) on the peripheral surface (6) can be seen as the body member (4) rotates.

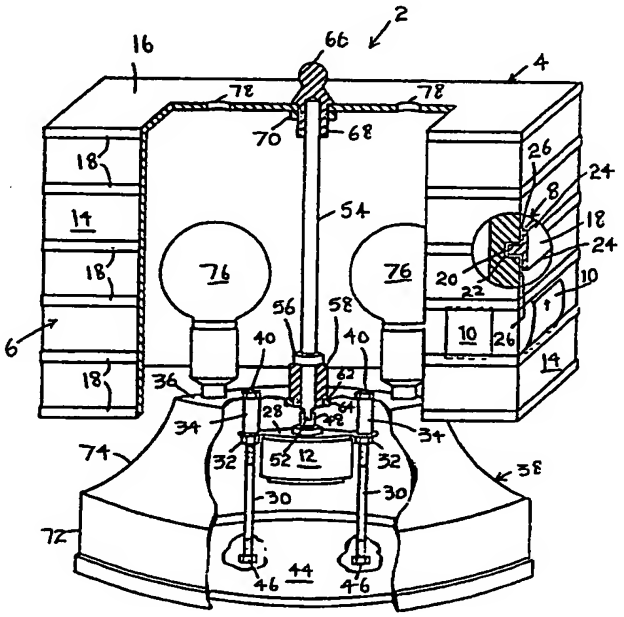

FIG 1

The claims were filed later than the filing date within the period prescribed by Rule 25(1) of the Patents Rules 1982.

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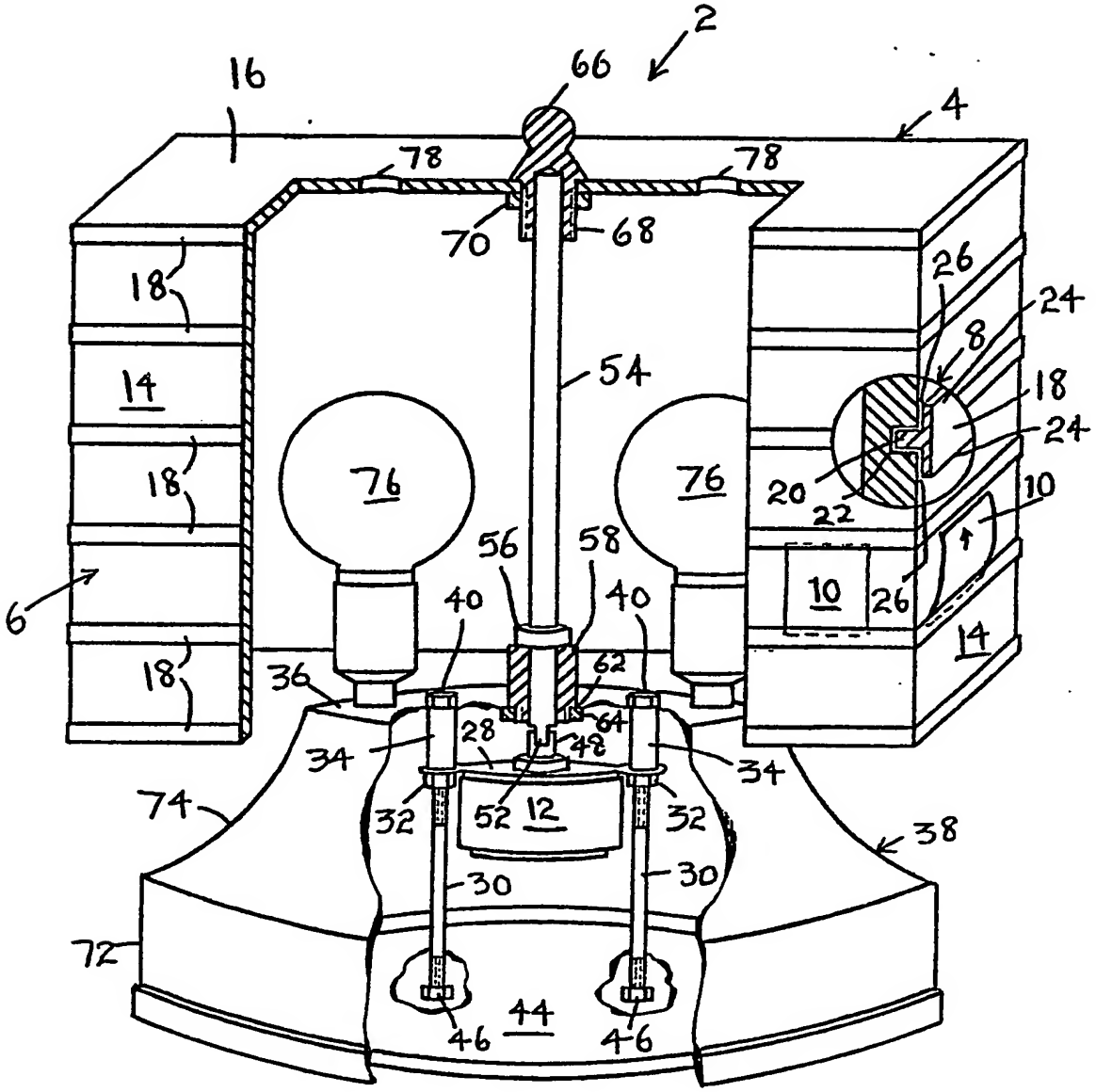
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FIG 1

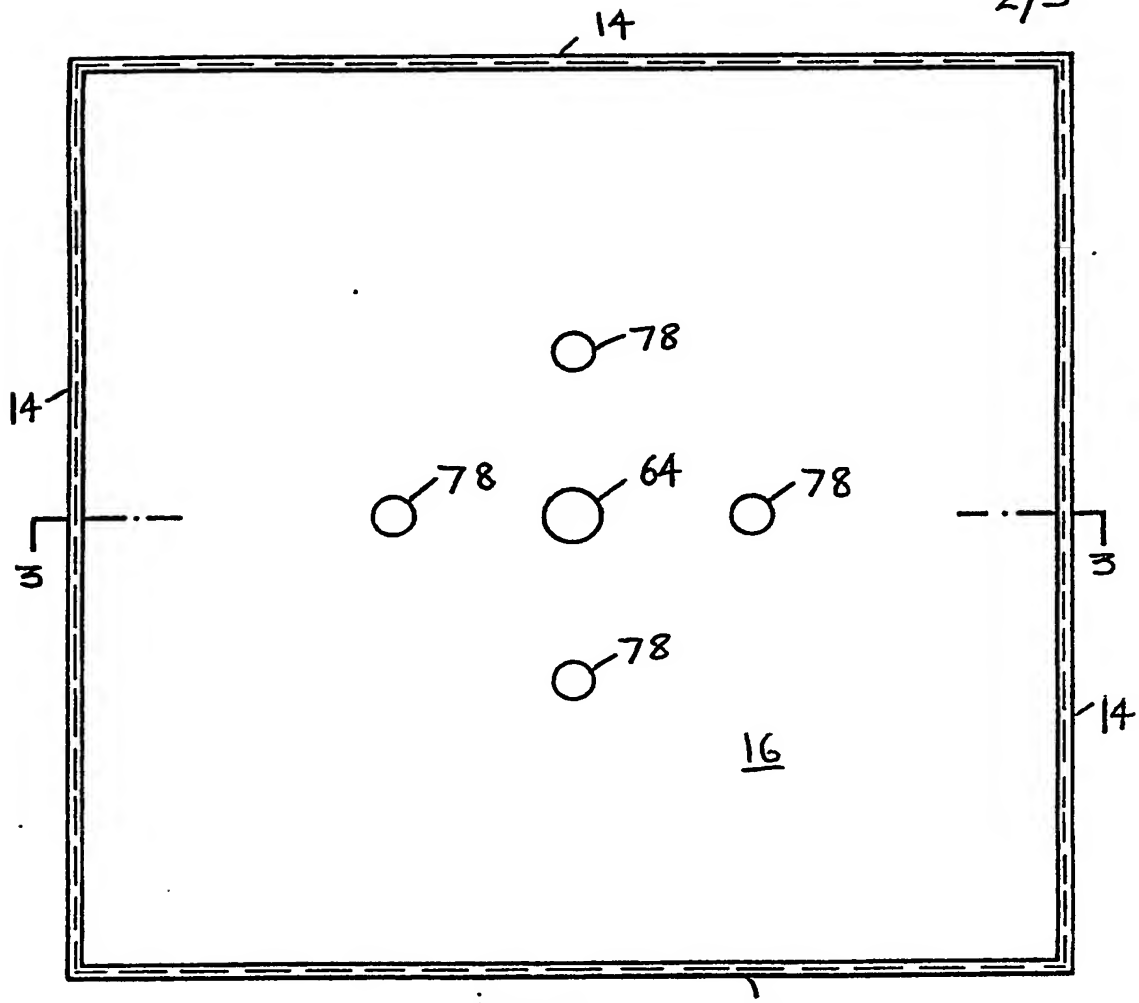

FIG 2

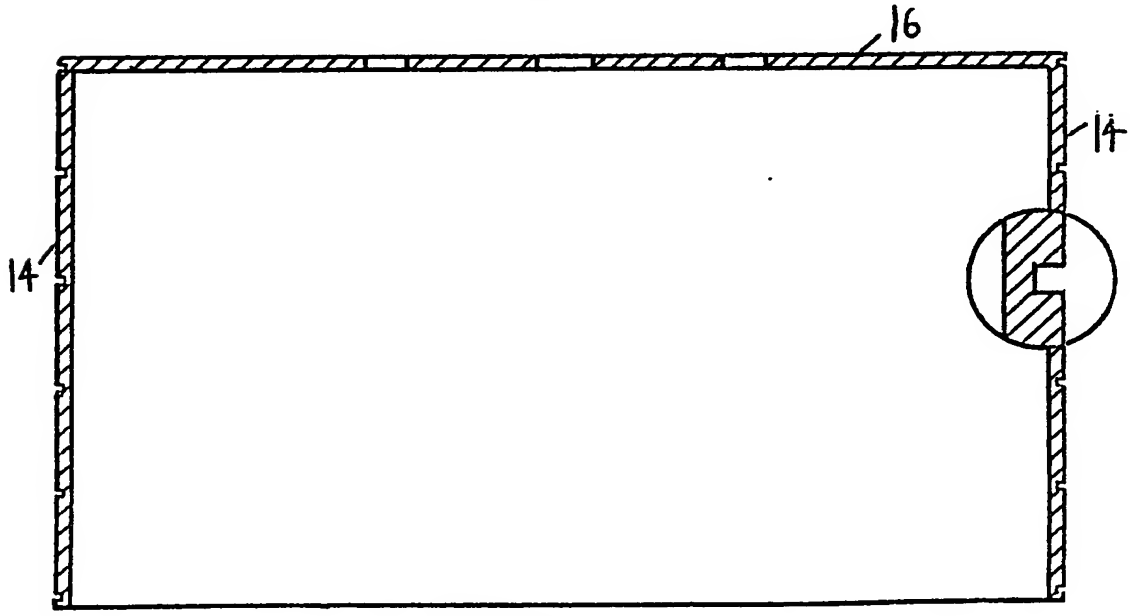

FIG 3

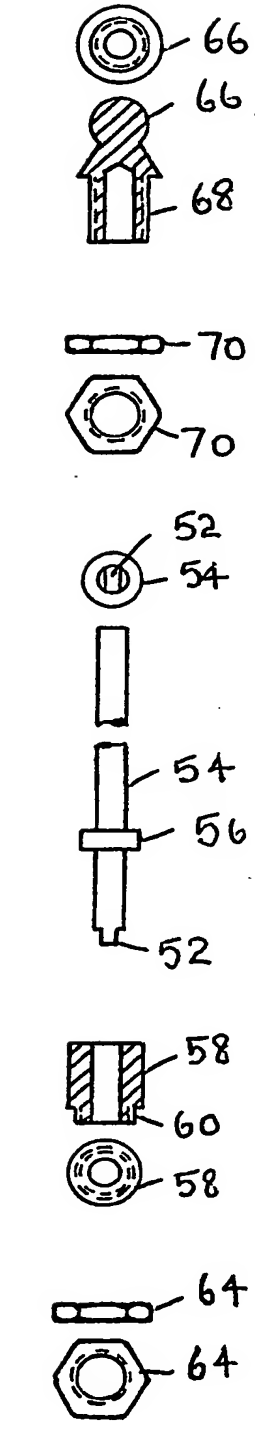

FIG 5

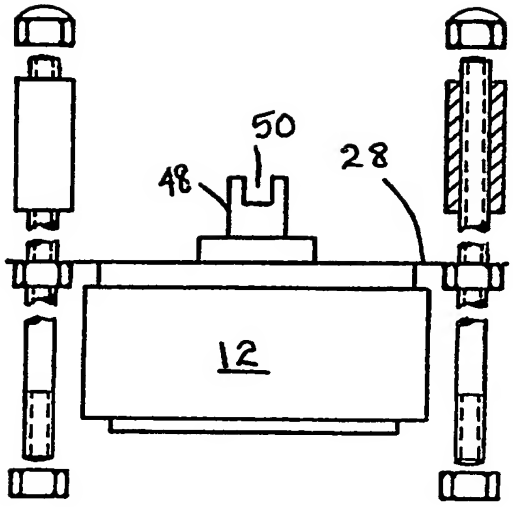

FIG 4

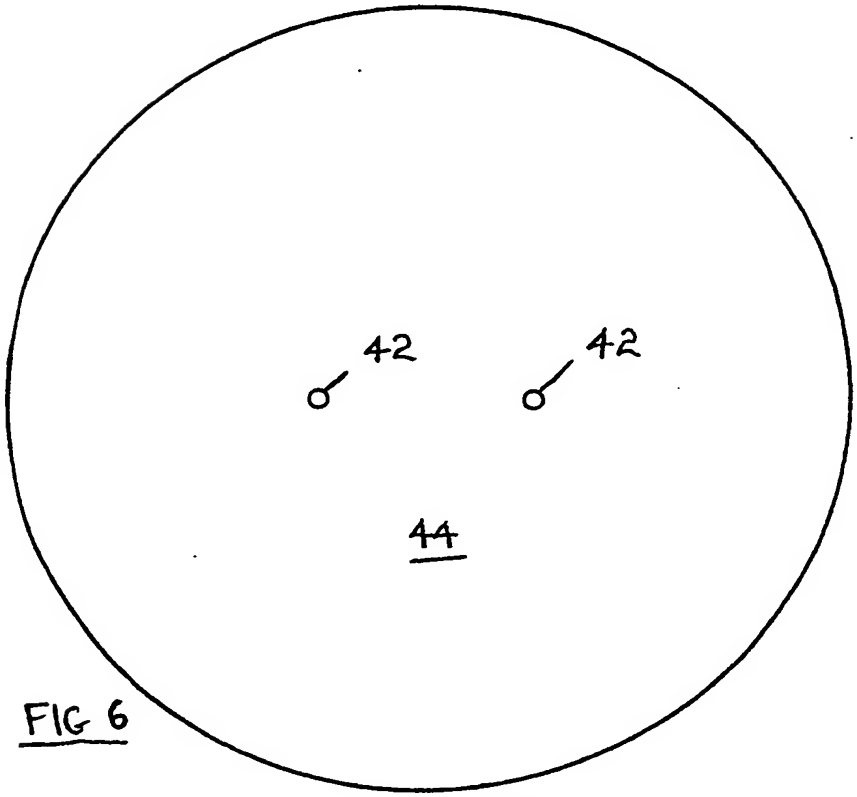

FIG 6

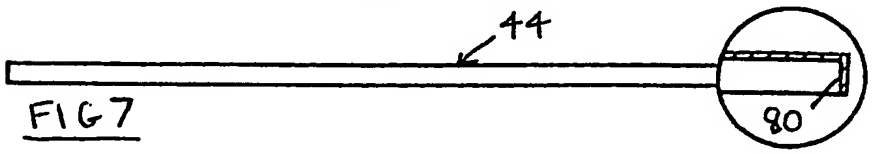

FIG 7

A ROTATEABLE SIGN

This invention relates to a rotateable sign.

There are many different types of known signs. The signs are extensively used in commerce for enabling persons to advertise their wares. Different types and sizes of sign can be used for a multitude of purposes such for example as in shops and supermarkets offering goods for sale, in restaurants advertising food for sale, in public houses advertising drinks for sale, and in hairdressers offering different types of hair treatment. The known signs vary in size and shape but they are all invariably such that they are not easily moved to another place and/or the information on them is not easily changed.

It is an aim of the present invention to reduce the above mentioned problems.

Accordingly, this invention provides a rotateable sign comprising a box-like body member having a peripheral surface, receiver means which is mounted on the peripheral surface and which is for receiving display members containing information to be displayed, and a motor for rotating the body members such that the display members on the peripheral surface can be seen as the body member rotates.

In one embodiment of the invention, the peripheral surface is a rectilinear peripheral surface. The rectilinear

peripheral surface may form a square, a rectangle or a triangle.

In another embodiment of the invention, the peripheral surface is a curved peripheral surface. The curved peripheral surface may form a cylinder.

The receiver means preferably comprises a plurality of horizontally extending members into which the display members clip. When the display members are in position, they can advantageously be slid along the horizontally extending members to a desired position.

The horizontally extending members may be strip members which are located in grooves in the peripheral surface. Alternatively, the horizontally extending members may be strip members which are secured by an adhesive to the peripheral surface. Still further, the horizontally extending members may be flexible strip members having elastic properties. The flexible strip members having the elastic properties may be made of a plastics material.

With the horizontally extending members being formed as the above mentioned strip members which are located in grooves in the peripheral surface or by adhesive, then these strip members are preferably located on the outside of the body member since this will usually be the most accessible part of the body member. If desired however these horizontally extending strip members may be

located on the inside of the body member.

Usually, the motor will be an electric motor.

The electric motor will usually have reduction gearing. The electric motor may be what is known as a gear motor reducer, a micro-motor, a synchronous motor or a permanent magnet motor. The electric motor may also be a stepper motor.

The rotateable sign may be one in which the motor rotates a shaft, and in which the body member is mounted on the shaft.

The rotateable sign may include a base.

The base may be a hollow base. Generally, the base may be made of any desired shape, size and material. The base may form the base of a vase.

The rotateable sign may be made to be portable or fixed. Where the rotateable sign is made to be fixed, then it may be fixed to a wall or a counter of premises in which the rotateable sign is to be used. The rotateable sign may be manufactured for indoor and/or outdoor use. The rotateable sign may be made in any desired size from any suitable and appropriate materials, and in any suitable and appropriate colour or combination of colours. Irrespective of whether the rotateable sign is portable or fixed, it can be produced such that it can be moved easily from place to place, with the displayed information being easily changed, for example on a do-it-yourself basis.

Preferably, the rotateable sign includes at least one source of light for illuminating the display members.

The said at least one source of light is preferably positioned inside the body member.

The said at least one source of light may be a bulb or a tube. If desired, more than one bulb or tube may be employed. The source of light may be light of any desired colour or combination of colours.

The rotateable sign may include the display members.

The display members will usually contain letters and/or numbers so that goods and services can be identified in words, together with the price of such goods or services. In some instances, only goods or services will be advertised and prices will not be given. Generally, the advertising can be in any desired form and the display members may also include pictures. Where letters and numbers are employed, these can be in any style. Thus the letters may be in the form of alphanumerics.

The display members may be pieces of transparent material in order that the information contained on them is able to easily be seen, especially when illuminated. The displayed information may be provided on the display materials by any suitable and appropriate means such for example as by roller printing or silk screen printing. Various printing inks and paints may be employed. If

desired, the information to be displayed may be provided from a luminescent/fluorescent material so that the information to be displayed will be visible in the dark in the absence of light.

The display members are preferably flexible to facilitate their location in the receiver means.

Each separate display member may contain one letter or number so that a plurality of letters and/or numbers can then easily be provided to give a desired advertising message.

The rotateable sign of the present invention is easily noticed because, during use, it will be rotating. The information to be displayed can easily be altered simply by removing the display members from the receiver means and inserting new display members. When the rotateable sign includes the said at least one source of light, then the rotateable sign will be especially noticeable at night and the light may also serve for illuminating the surrounding environment of the premises in which the rotateable sign is used.

An embodiment of the invention will now be described solely by way of example and with reference to the accompanying drawings in which:

Figure 1 is a cut-away propsective view showing the rotateable sign;

Figure 2 is a top plan view of a box-like member forming part of the rotateable sign shown in Figure 1;

Figure 3 is a cross section on the line 3-3 shown in Figure 2;

Figure 4 illustrates how an electric motor forming part of the rotateable sign is mounted in the rotateable sign;

Figure 5 is an exploded view showing side and plan views of the various components employed in connecting the body member to the electric motor;

Figure 6 is a top plan view of a closure member for a base of the rotateable sign shown in Figure 1; and

Figure 7 is an end view, partially in enlarged cross section, of the closure member shown in Figure 6.

Referring to the drawings, there is shown a rotateable sign 2 comprising a box-like body member 4 having a peripheral surface 6. The sign 2 further comprises receiver means 8 which is mounted on the peripheral surface 6 and which is for receiving display members 10. The display members 10 contain information to be displayed such for example as letters, numbers or pictures. The sign 2 further comprises an electric motor 12 for rotating the body member 4 such that the display members 10 on the peripheral surface 6 can be seen as the body member 4 rotates.

The body member 4 is such that its peripheral surface 6 is a rectilinear peripheral surface which forms

a square. The body member 4 thus forms a square box having side walls 14 and a top wall 16. The body member 4 is hollow and is open at its bottom as can be seen from Figure 1.

The receiver means 8 comprises a plurality of horizontally extending members 18 into which the display members 10 clip. When the display members 10 are clipped in position, they can then be slid along the members 18. As can be seen from the enlarged parts of Figures 1 and 3, the members 18 are T-shaped in cross section, with the central leg 20 of the T being a friction fit in a groove 22 formed in the peripheral surface 6. The arms 24 of the members 18 define slots 26 between themselves and the peripheral surface 6. Each pair of opposed slots 26 receive the display members 10 as shown in Figure 1. One display member 10 shown in Figure 1 is shown being flexed with its bottom end in one of the slots 26 and its top end about to be inserted into an opposed slot 26.

The electric motor 12 is a motor reducer which has reduction gearing so that the body member 4 is rotated at a sufficiently slow rate for information displayed by the display members 10 easily to be seen.

As can be seen from Figures 1, 4 and 5 the electric motor 12 has a mounting plate 28 through which a pair of bolts 30 pass. The bolts 30 each have a nut 32 on which the

apertured portions of the mounting plate 28 rest. Sleeve members 34 rest on top of the apertured portions of the mounting plate 28 and the sleeve members 34 abut against the inside surface of a top wall 36 of a base 38 forming part of the sign 2. Nuts 40 are tightened on top of the bolts 30 which project through apertures in the top wall 36. The bolts 30 also project through apertures 42 in a closure member 44 for the base 38. Nuts 46 are screwed on to the bottom ends of the bolts 30 and tight against the underneath surface of the closure member 44. Thus the bolts 30 are securely held in position between the top wall 36 and the closure member 44, and they securely hold in position the electric motor 12.

The electric motor 12 has an upstanding stub 48 which is provided with a slot 50. The slot 50 receives a flat end 52 of a shaft 54. The shaft has a collar 56 and a sleeve member 58 is positioned underneath the collar 56 as shown. The sleeve member 58 has a reduced diameter portion 60 which extends through an aperture 62 in the top wall 36. The reduced diameter portion 60 is threaded and a nut 64 screws on to the reduced diameter portion 60 and against the underneath surface of the top wall 36. The sleeve member 58 acts as a guide bush which enables the shaft 54 to upstand from the guide bush and also to rotate in the guide bush. If it is desired to

dismantle the sign 2, for example for storage purposes for sale, then the shaft 54 can easily be pulled out of the sleeve member 58 and the slot 50. When the sign 2 is dismantled, the base 38 fits in the body member 4 for easy packing.

The upper end of the shaft 54 projects through an aperture 64 in the top wall 16. A knob 66 also extends through the aperture 64 and presses over the top of the shaft 54. The knob 66 has a reduced diameter portion 68 which is screw threaded and which receives a nut 70. The nut 70 is screwed along the reduced diameter portion 68 to bear against the underneath surface of the top wall 16. Thus the upper end of the shaft 54 is securely held in position. Friction between the upper end of the shaft 54 and the knob 66 causes the body member 4 to rotate as the shaft 54 rotates. However, if it is desired to remove the body member 4 from the shaft 54, this is easily done simply by pulling the body member 4 off the top of the shaft 54.

The base 38 is shaped as shown to have an upstanding side wall portion 72 and then an inwardly curved portion 74. The top wall 36 of the base 38 has a pair of apertures which receive light sources in the form of a pair of bulbs 76. The bulbs 76 are located as shown inside the body member 4 so that, when the bulbs are

lit, the inside of the sign 2 is illuminated. The side walls 14 will usually be made of a transparent material, for example a transparent plastics material so that light from the bulbs 76 can shine through the side walls 14. Similarly, the display members 10 will also usually be made of a transparent material, with the letters numbers or pictures provided on the display members 10 then being opaque or semi-transparent so that the information to be displayed will clearly stand out. Preferably the top wall 16 is made to be opaque, for example by being coated black. Apertures 78 provided in the top wall 16 thus let beams of light escape from inside the body member 4. As the body member 4 rotates, the beams of light appear to move, thus creating a pleasing aesthetic affect which helps to draw attention to the sign 2.

Figures 6 and 7 show the shape of the closure member 44. As can be seen, the closure member 44 is disc shaped and it has a peripheral downwardly depending flange 80.

The sign 2 is portable. It can be produced in a variety of colours and it can also be illuminated via the bulbs 76 in a variety of colours. With or without illumination from the bulbs 76, the sign 2 is aesthetically pleasing and is such that the information displayed on the display members 6 is readily seen and easy to appreciate.

It is to be appreciated that the embodiments of the invention described above with reference to the accompanying drawings has been given by way of example only and that modifications may be effected. Thus, for example, the sign 2 may be made in different sizes and the precise shape shown can be varied. Furthermore, the sign 2 can be made to be fixed in position so that it can be fixed, for example, to a wall or a shop counter. Additional sets of display members 10 can be sold with the sign or can be sold separately from the sign. The electric motor 12 is preferably mains operated but it may be battery operated if desired. The body member 4 may be of another shape so that it may be, for example, rectangular, triangular or cylindrical. Different types of members 18 may be employed so that members 18 which are secured to the peripheral surface 6 by an adhesive may be employed. Alternatively, the members 18 may be flexible strip members having elastic properties so that these flexible members can be stretched to locate over the display members 10. The display members 10 can be of other shapes and sizes than shown. Entire words, phrases or pictures can be displayed on the display members 10. Although the display members 10 are shown located on the outside of the body member 4, they could be located on the inside of the body member 4 if desired. The apertures 78 may also ventilate the body member 4. The collar 56 and

the sleeve member 58 can be replaced by a ball bearing arrangement for heavier loads.

Where the display members display a picture, this may be for giving a pleasing aesthetic effect in addition to or alternatively to providing commercial information such for example as the price of goods or services. Because the display member 10 can so easily be located in position, it will be apparent that the rotateable sign can be rewritten with different messages very quickly. Even messages in different languages can be employed, for example for use in multi-lingual restaurants. Prices of products can easily be varied and generally the rotateable sign of the present invention is simple to work with, whilst providing a very noticeable display. When black alphanumerics are employed, they will usually be opaque. When other colours for the alphanumerics are employed, they will usually be printed with semi-transparent inks or paints so that light can shine through them.

CLAIMS

1. A rotateable sign comprising a box-like body member having a peripheral surface, receiver means which is mounted on the peripheral surface and which is for receiving display members containing information to be displayed, and a motor for rotating the body member such that the display means on the peripheral surface can be seen as the body member rotates.

2. A rotateable sign according to claim 1 in which the peripheral surface is a rectilinear peripheral surface.

3. A rotateable sign according to claim 2 in which the rectilinear peripheral surface is in the form of a square, a rectangle or a triangle.

4. A rotateable sign according to claim 1 in which the peripheral surface is a curved peripheral surface.

5. A rotateable sign according to claim 4 in which the curved peripheral surface is in the form of a cylinder.

6. A rotateable sign according to any one of the preceding claims in which the receiver means comprises a plurality of horizontally extending members into which the display members clip.

7. A rotateable sign according to claim 6 in which the display members are such that when they are in position, they can be slid along the horizontally extending members to a desired position.

8. A rotateable sign according to any one of the preceding claims in which the horizontally extending members are strip members which are located in grooves in the peripheral surface.

9. A rotateable sign according to any one of claims 1 to 7 in which the horizontally extending members are strip members which are secured by an adhesive to the peripheral surface.

10. A rotateable sign according to any one of claims 1 to 7 in which the horizontally extending members are flexible strip members having elastic properties.

11. A rotateable sign according to claim 10 in which the flexible strip members having the elastic properties are made of a plastics material.

12. A rotateable sign according to claim 8 in which the strip members are located on the outside of the body member.

13. A rotateable sign according to any one of the preceding claims in which the motor is an electric motor.

14. A rotateable sign according to claim 13 in which the electric motor has reduction gearing.

15. A rotateable sign according to any one of the preceding claims in which the motor rotates a shaft, and in which the body member is mounted on the shaft.

16. A rotateable sign according to any one of the preceding claims and including a base.

17. A rotateable sign according to claim 16 in which the base is a hollow base.

18. A rotateable sign according to any one of the preceding claims and including at least one source of light for illuminating the display members.

19. A rotateable sign according to claim 18 in which the said at least one source of light is positioned inside the body member.

20. A rotateable sign according to claim 18 or claim 19 in which the said at least one source of light is a bulb or a tube.

21. A rotateable sign according to any one of the preceding claims and including the display members.

22. A rotateable sign according to claim 21 in which the display members contain letters and/or numbers so that goods and services can be identified in words, together with the price of such goods or services.

23. A rotateable sign according to claim 21 or claim 22 in which the display members are pieces of transparent material.

24. A rotateable sign according to any one of claims 21 to 23 in which the display members are flexible to facilitate their location in the receiver means.

25. A rotateable sign according to any one of claims 1 to 24 in which each separate display member contains one letter or number.

26. A rotateable sign substantially as herein described with reference to the accompanying drawings.

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